

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 7, 2008. Claims 18 to 21 and 27 to 30 are in the application, of which Claim 27 is the sole independent claim. Reconsideration and further examination are respectfully requested.

Claims 16 to 18, 22 and 23 were rejected under 35 U.S.C. § 103(a) over U.S. Patent 6,012,808 (Koitabashi) in view of U.S. Patent 6,422,674 (Hinami). In addition, Claims 19 to 21 and 24 to 26 were rejected further in view of U.S. Patent 7,101,012 (Kosugi).

In response, the claims herein have been amended so as to correspond more closely to embodiments of the invention that are similar to that depicted in Figure 8D. As shown in Figure 8D, an ink tank has a bottom wall and a top wall, together with a side wall having a concave portion formed therein. The concave portion includes a horizontally-extending wall which extends horizontally from the side wall. An ink remaining amount sensing module 400 is placed on the horizontally-extending wall, facing the bottom surface (see page 28, lines 6 to 15).

In the embodiment shown in Figure 8D, it is possible to detect an ink remaining amount optically in a continuous or "analog" manner after the ink remaining amount reaches a certain level. With respect to the first point (i.e., "analog detection of ink remaining amount"), and as explained previously, conventional ink tanks are ordinarily hampered in their ability to provide detailed information concerning the precise amount of

residual ink remaining in the ink tank, since such conventional ink tanks merely provide a binary ink/no-ink detection. That is, residual ink detection in conventional ink tanks are able to differentiate only between a situation in which there is sufficient ink and a situation in which there is not sufficient ink. In contrast, as seen in Figure 8D, it is possible to ascertain the residual amount of ink with greater accuracy than a simple present/not-present determination.

With respect to the second point (i.e., residual ink detection after remaining ink reaches a certain level), page 28 describes the advantages of the Figure 8D embodiment as follows. More precisely, once the amount of ink has decreased in such a way that its level lowers below the horizontally-extending wall, the quantity of light received by a light receiving section varies in correlation with the remaining amount of ink. Such a configuration is advantageous for sensing the remaining amount of ink when the ink has a relatively low light transmittance, for example, a pigment ink.

With specific focus on the language of the claims, an ink tank comprises a rigid housing having a bottom wall and a top wall connected by a side wall therebetween, wherein the bottom wall is positioned at a bottom of the ink tank when the ink tank is in an in-use orientation. The housing includes an ink accommodating chamber constructed for direct accommodation of ink. An ink supply port to supply ink to an outside of the ink tank, wherein the ink supply port is positioned in the bottom wall. A horizontal wall extending horizontally from the side wall to face the bottom wall, wherein at least a portion of the bottom wall facing the horizontal wall is light transmissive. An optical reflector

disposed on an inside surface of the horizontal wall, so that a reflecting surface of the optical reflector faces the bottom wall.

The applied art is not seen to disclose or to suggest the foregoing arrangement. Koitabashi discloses a construction in which an optical reflector is disposed along a partition wall that extends in the vertical (as opposed to horizontal) direction, in order to perform a present/not-present detection of ink remainder. Hinami discloses a construction in which a reflective plate is horizontally disposed on a mounting portion for an ink tank, wherein the reflective plate is positioned between the ink tank and a negative pressure generating member containing portion. In contrast to the claim, however, Hinami does not disclose or suggest a construction in which an optical reflector is disposed on an inside surface of a horizontal wall that faces a bottom wall of the ink tank, so that an optical reflector faces the bottom wall. Kosugi was apparently relied on for its disclosure of an information storage element, and is not seen to be pertinent to the claims construction of an ink tank.

It is therefore respectfully submitted that the claims define subject matter that would not have been obvious from any permissible combination of the applied art, and allowance is respectfully requested.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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